

**What Is Claimed Is:**

1. A system for network device upgrade, comprising:  
a computer system for outputting a first packet and a second  
packet, the first packet comprising at least version  
identification for upgrade data, and the second  
5 packet comprising at least the upgrade data;  
a switching device connected to the computer system;  
a plurality of network devices connected to the switching  
device to receive the first and second packets,  
receiving the first package to individually generate  
10 non-repetitive IP addresses corresponding to the  
computer system, selectively generating an upgrade  
request according to the version identification data  
in the first packet, and outputting an upgrade  
request to the computer system;  
15 wherein the computer system receives the upgrade request,  
and outputs the second package according to the IP  
addresses of the plurality of network devices, by  
which the plurality of network devices is upgraded.
2. The system as claimed in claim 1, wherein the  
plurality of network devices receives the second package,  
compares the upgrade data therein with existing stored data, and  
generates new firmware according thereto, writing the update to  
5 flash memory.
3. The system as claimed in claim 1, wherein an IP address  
comprises an immobile part and an alteration part, the immobile

part decided by a media access control address of a network device, the immobile part corresponding to a subnet of the  
5 computer system.

4. The system as claimed in claim 1, wherein the plurality of network devices receives the first package to generate a subnet mask and a routing table, the subnet mask and the routing table corresponding to the computer system.

5. The system as claimed in claim 1, wherein the plurality of network devices comprises TCP/IP protocol network devices.

6. The system as claimed in claim 1, wherein the computer system outputs the first package to the plurality of network devices.

7. The system as claimed in claim 1, wherein version identification data of the upgrade data comprises a file name of the upgrade data.

8. A method for network device upgrade utilizing a computer system with a plurality of network devices connected thereto, comprising the steps of:

5           outputting a first package from the computer system to the  
            plurality of network devices, comprising at least  
            version identification corresponding to upgrade  
            data;  
            receiving the first package utilizing the plurality of  
            network devices, wherein the plurality of network

10            devices generate non-repetitive IP addresses  
             corresponding to the computer system;  
selectively generating an upgrade request and outputting  
             the upgrade request to the computer system for  
             utilizing the plurality of network devices according  
15            to the version identification data of the upgrade  
             data;  
outputting a second package comprising upgrade data to the  
             plurality of network devices according to IP  
             addresses thereof, the plurality of network devices  
20            then outputting an upgrade request to the computer  
             system; and  
             upgrading the plurality of network devices completely  
             according to the upgrade data in the second package.

9. The method as claimed in claim 8, wherein the  
plurality of network devices compares the update data and  
existing data stored therein to generate upgrade data, generate  
new firmware according to the upgrade data, and writes the new  
5    firmware to flash memory.

10. The method as claimed in claim 8, further comprising  
checking a length of the version identification data of upgrade  
data.

11. The method as claimed in claim 8, wherein an IP address  
comprises an immobile part and an alteration part, the immobile  
part decided by a media access control address of the network  
device, and the immobile part corresponding to a subnet of the  
5    computer system.

12. The method as claimed in claim 8, wherein in the plurality of network devices generate a subnet mask and a routing table, and the subnet mask and the routing table corresponding to the computer system.

13. The method as claimed in claim 8, wherein the plurality of network devices are TCP/IP protocol network device.

14. The method as claimed in claim 8, wherein the computer system outputs the first package to the plurality of network devices.

15. The method as claimed in claim 8, wherein comprising checking a signature of the second package for validity.

16. The method as claimed in claim 8, wherein the version identification data of the upgrade data comprises a file name of the upgrade data.

17. A method for network device upgrade for a network device utilizing an external computer system executing the upgrade, comprising the steps of:

5       receiving a first package, comprising at least version  
          identification corresponding to upgrade data;  
      generating an IP address according to the first package and  
          a media access control address of the network device,  
          the IP address corresponding to a subnet of the  
          computer system;

10       generating an upgrade request according to the version  
          identification data of the first package, and  
          outputting the upgrade request;  
          receiving a second package comprising at least upgrade  
          data;  
15       generating upgrade data according to comparison of the  
          upgrade data of the second package and existing data  
          from the network device; and  
          writing new firmware to flash memory, the new firmware  
          generated according to existing data.

18.   The method as claimed in claim 17, further comprising  
checking the file size of the version identification of the  
upgrade data.

19.   The method as claimed in claim 17, wherein the IP  
address comprises an immobile part and an alteration part, the  
immobile part decided by a media access control address of the  
network device, and the immobile part corresponding to a subnet  
5   of the computer system.

20.   The method as claimed in claim 17, further comprising  
generating a subnet mask and a routing table, both corresponding  
to the computer system.